



SERVICE MANUAL

A-R500/A-R300

Integrated Stereo Amplifier

NOTES

- PC boards shown are viewed from parts side.
- The parts with no reference number or no parts number in the exploded views are not supplied.
- As regards the resistors and capacitors, refer to the circuit diagrams contained in this manual.
- ♠ A Parts marked with this sign are safety critical components. They must be replaced with identical components - refer to the appropriate parts list and ensure exact replacement.
- Parts of [] mark can be used only with the version designated.
 [GE]:GENERAL EXPORT [E]:EUROPE [UK]:U. K. [A]:AUSTRALIA

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SPECIFICATIONS

Continuous Power Output:

A-R500

RMS: 90W+90W

(20-20,000Hz, 8 ohms, THD 0.08%) **DIN**: 100W+100W(1kHz, 8 ohms)

A-R300

RMS: 45W+45W

(20-20,000Hz, 80hms, THD 0.08%) **DIN**: 50W+50W(1kHz, 8 0hms)

Total Harmonic Distortion:

0.05%(1kHz, 8 ohms, continuous rated power output)

Input Sensitivity/Impedance:

PHONO:2.8mV/47k ohms

CD, TUNER, AUX, TAPE, VCR:190mV/47k ohms

Signal-to-Noise Ratio(IHF-A):

A-R500

PHONO: 70dB(5mV)

CD, TUNER, AUX, TAPE, VCR: 90dB

A-R300

PHONO: 65dB(5mV)

CD, TUNER, AUX, TAPE, VCR: 85dB

Output Level/Impedance:

TAPE: 150mV/3.3k ohms

Frequency Response:

PHONO : 20-20,000Hz, ± 1dB(RIAA)

CD, TUNER, AUX, TAPE, VCR:

10-80,000 Hz, +1/-3 dB

Tone Control:

BASS: ±10dB(100Hz)

TREBLE: ± 10 dB(10kHz)

Muting:

-20dB

Power Requirements/Power Consumption:

A-R500

230V AC, 50Hz, 350W(Europe)

115/230V AC, 50-60Hz, 350W(General Export)

A-R300

230V AC, 50Hz, 195W(Europe)

115/230V AC, 50-60Hz, 195W(General Export)

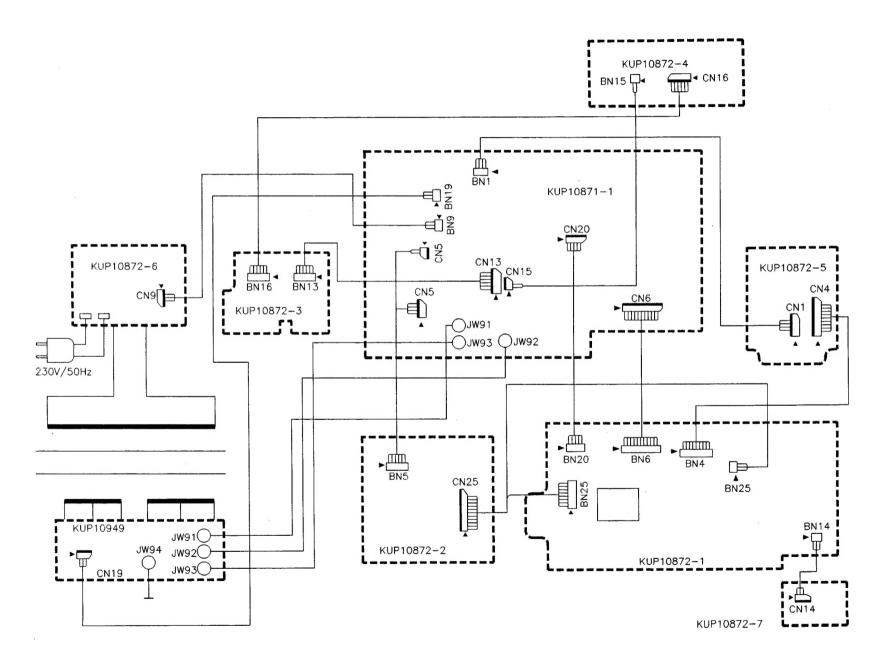
Dimensions($W \times H \times D$):

435 ×135 × 340mm

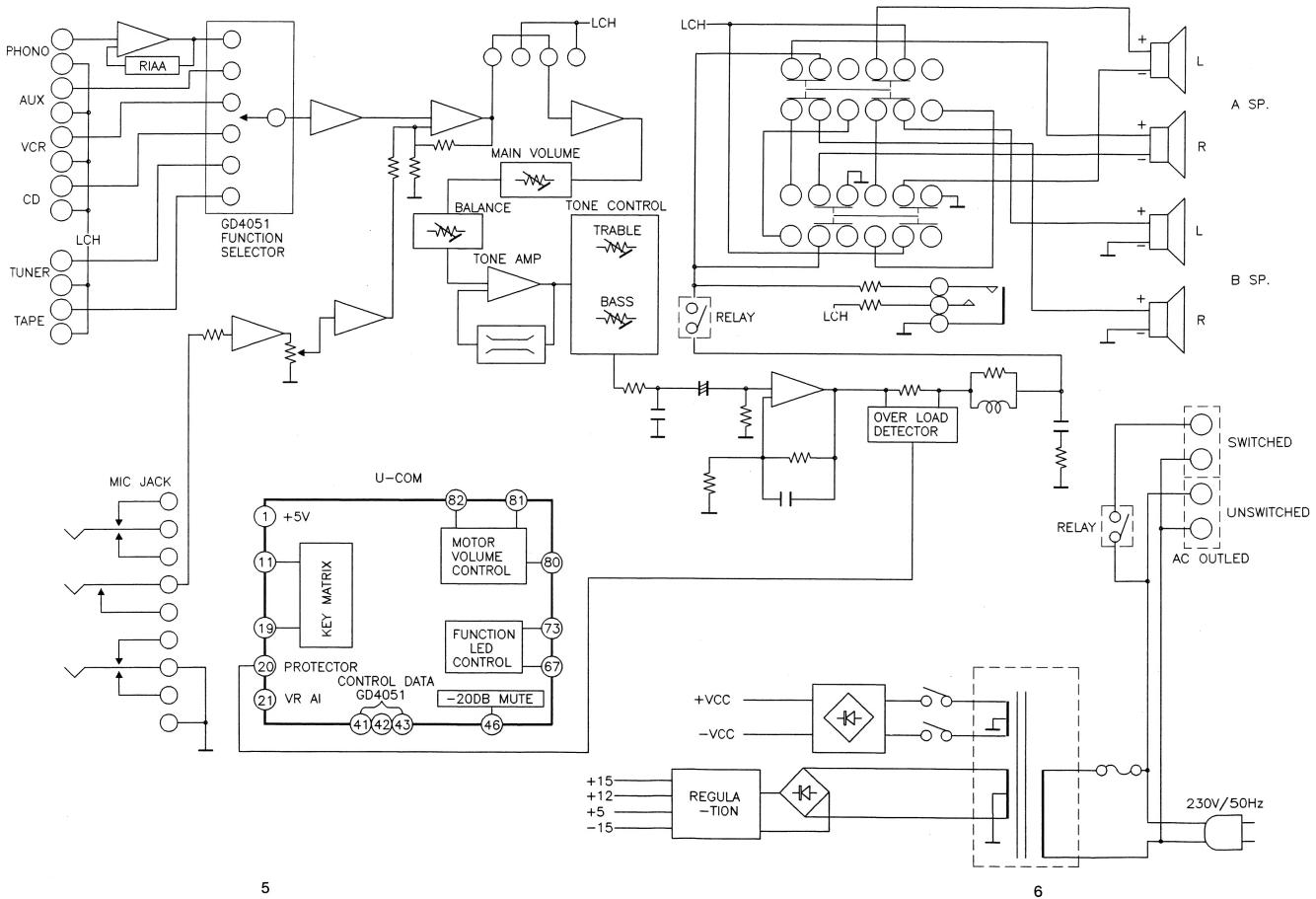
Weight(net):

A-R500: 9.9Kg A-R300: 8.2Kg

- Improvements may result in specifications and features changing without notice.
- Illustrations may differ slightly from production models.

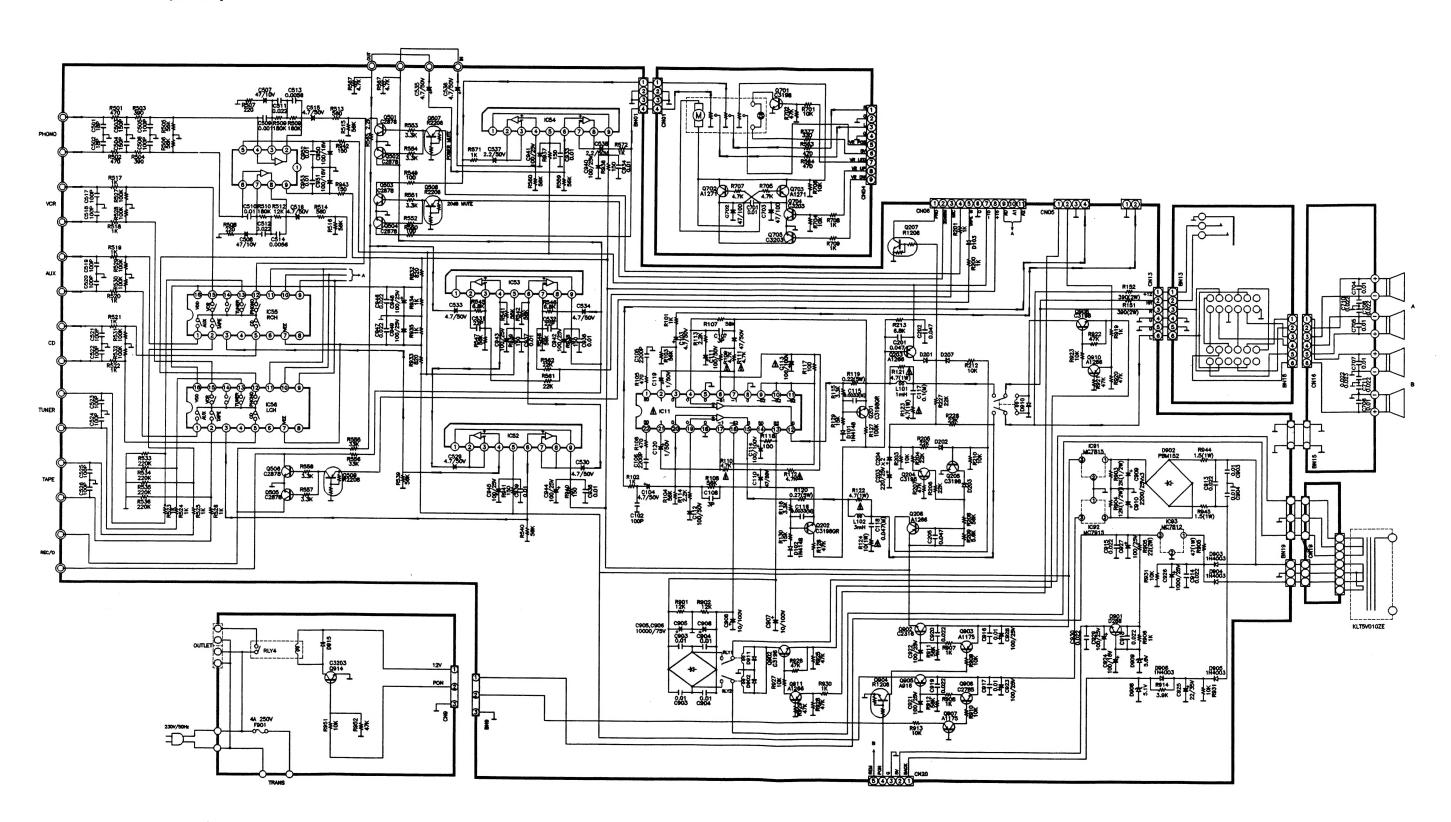


BLOCK DIAGRAM



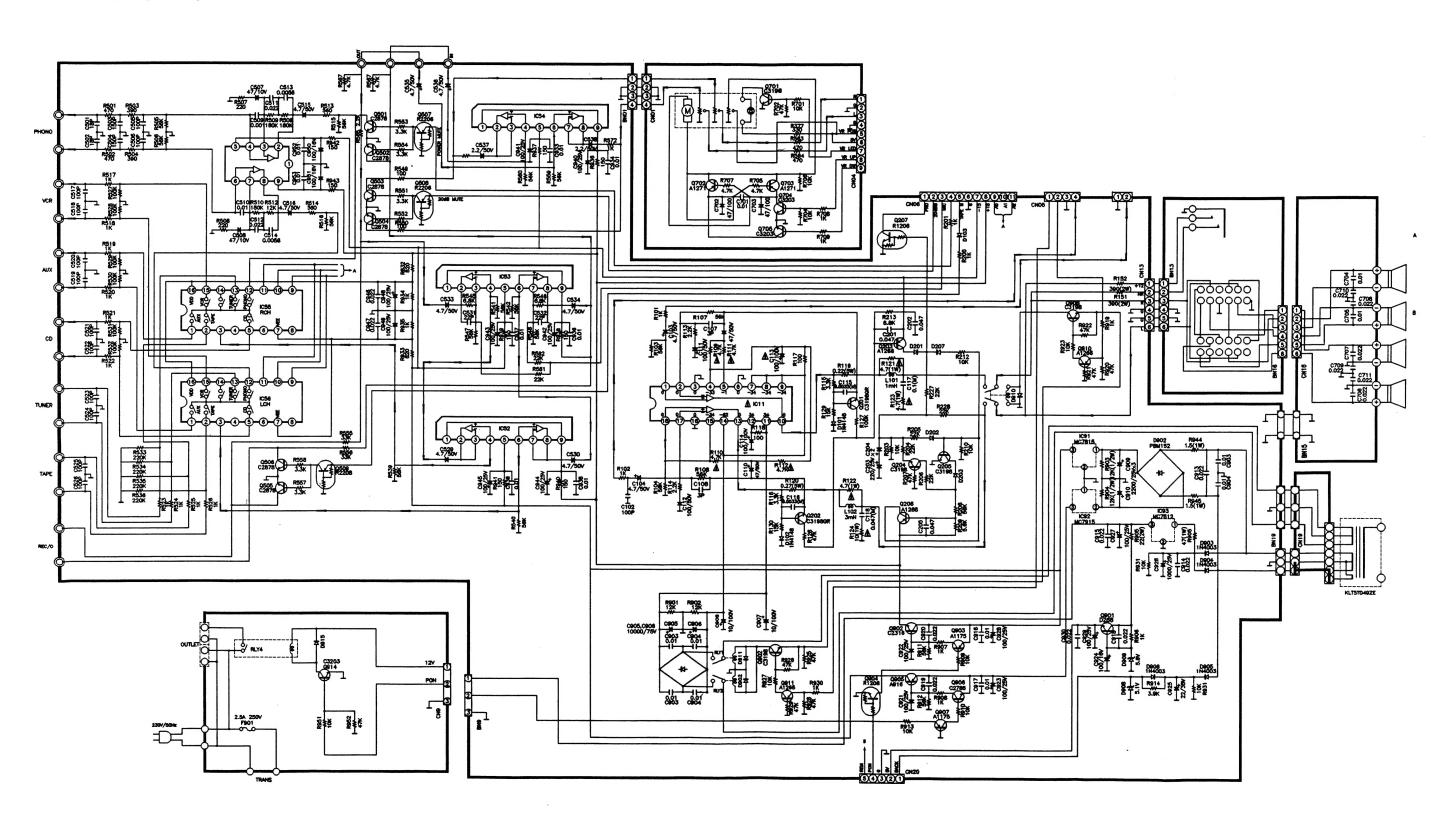
SCHEMATIC DIAGRAM

A-R500 (MAIN)

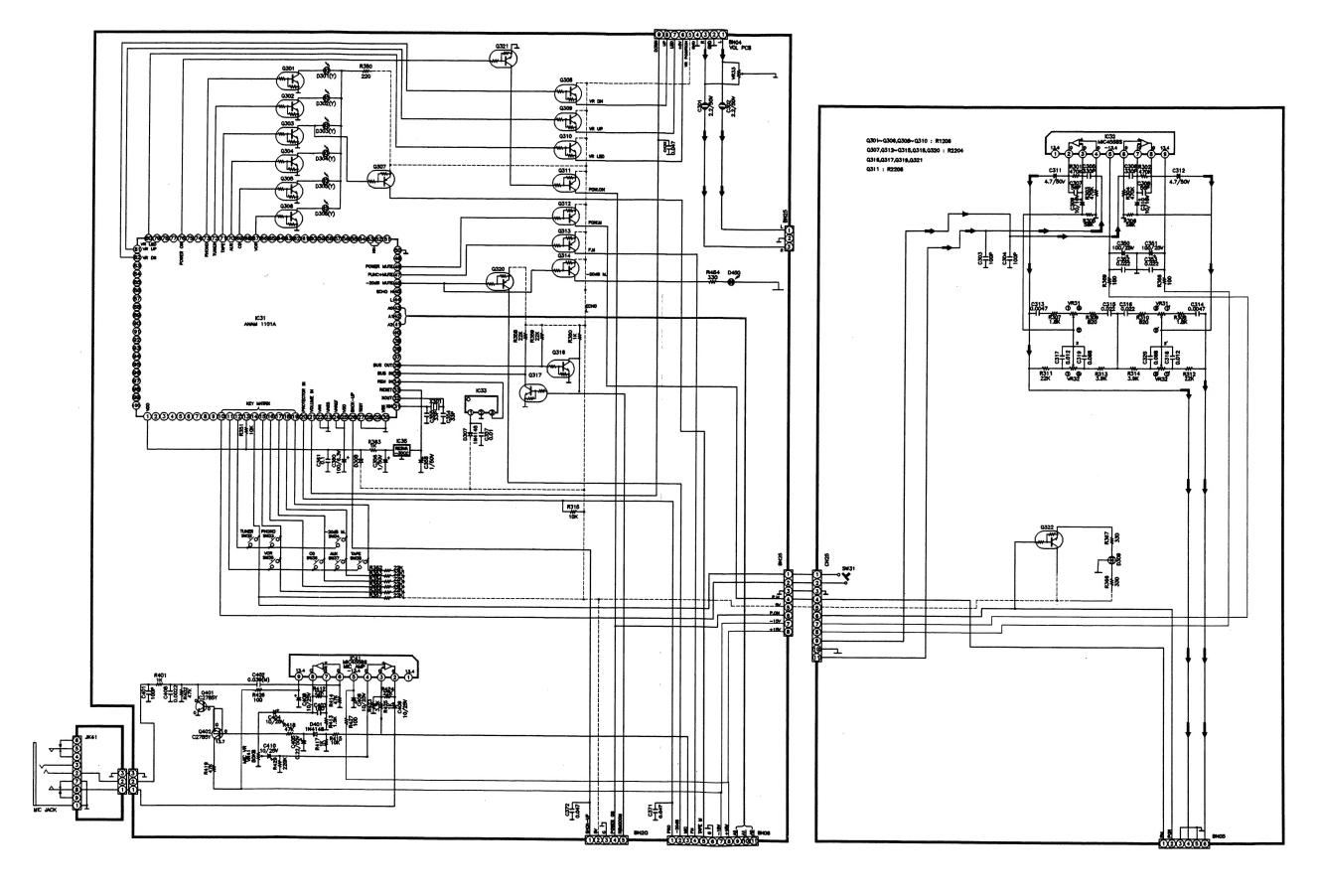


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A-R300 (MAIN)

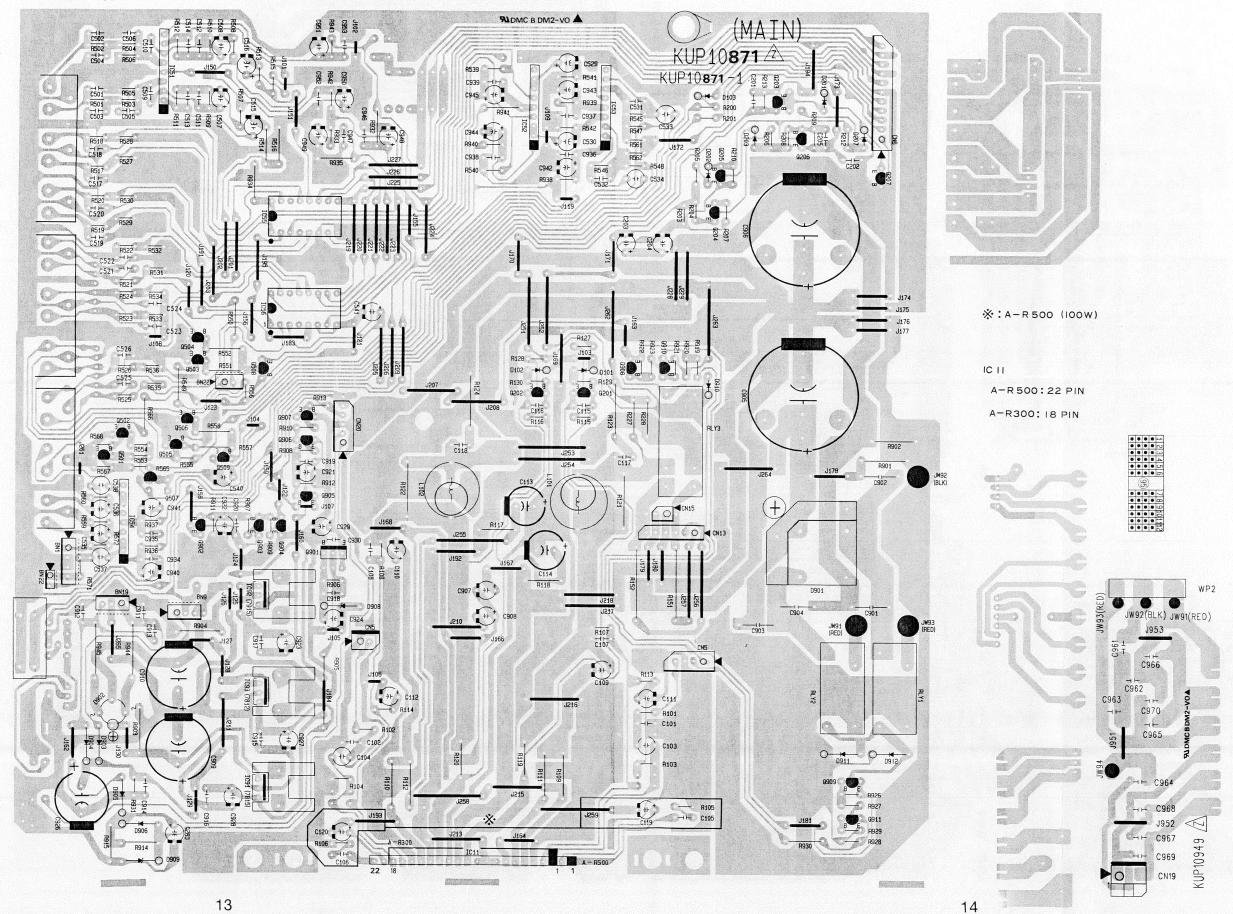


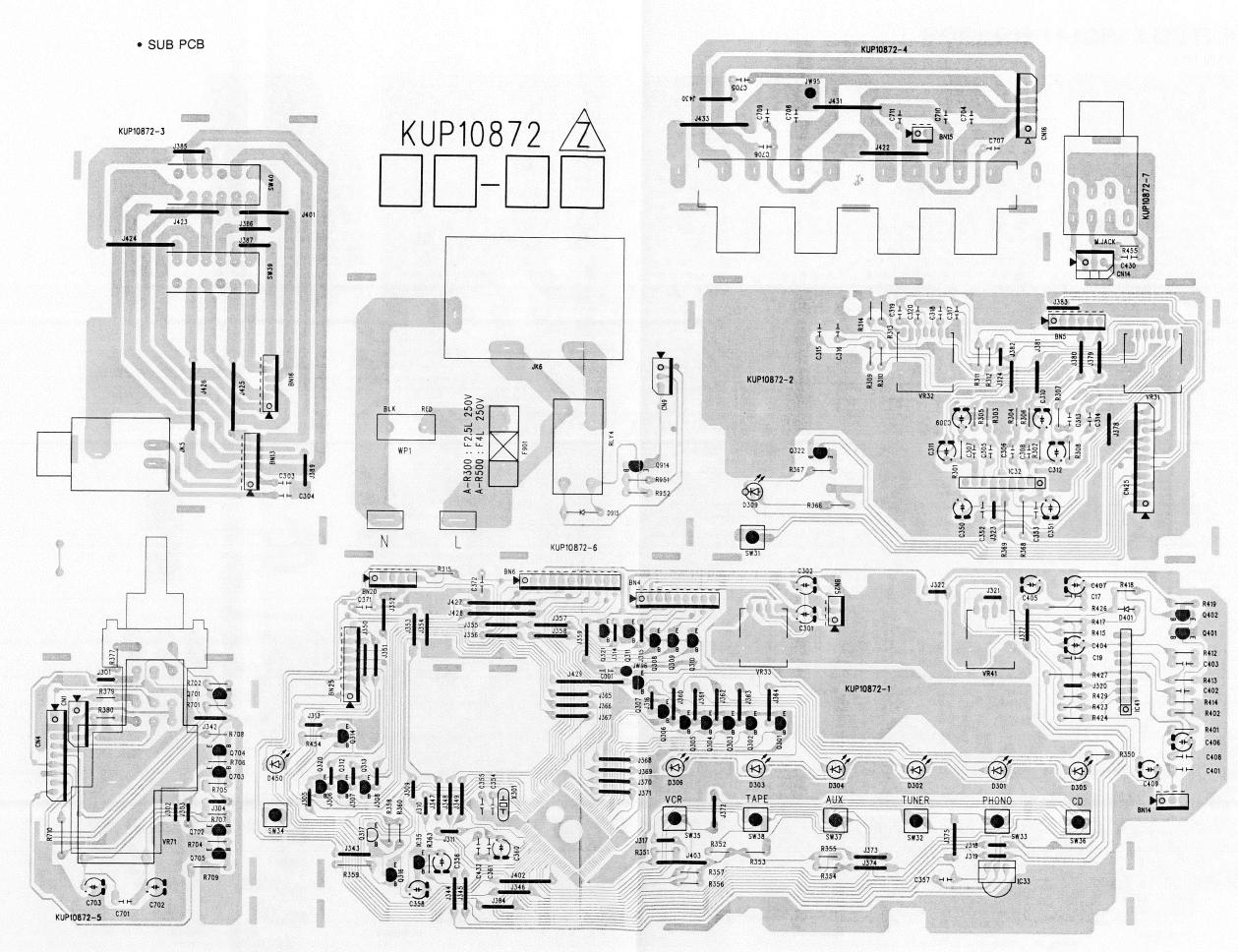
A-R500/300(SUB)

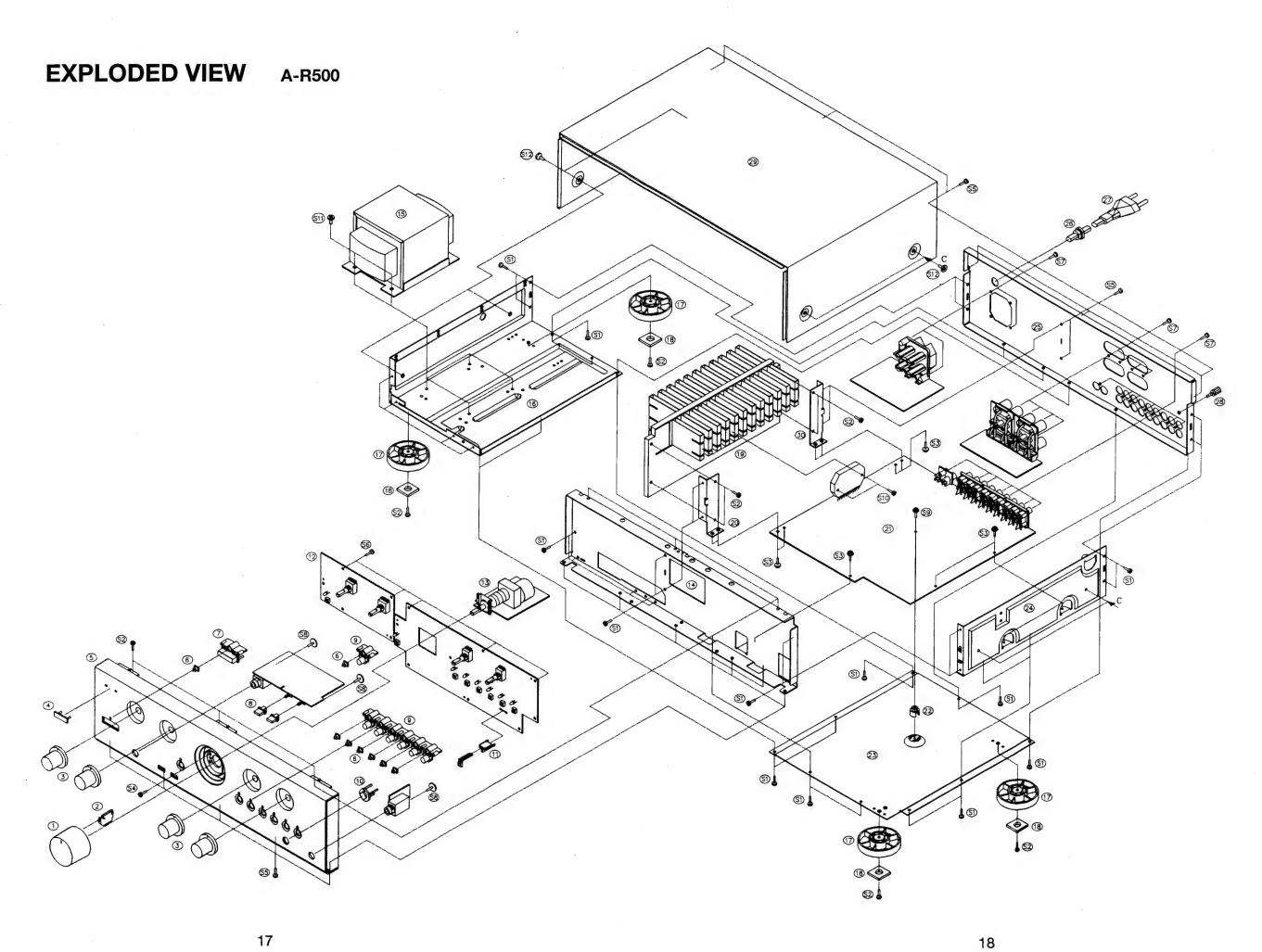


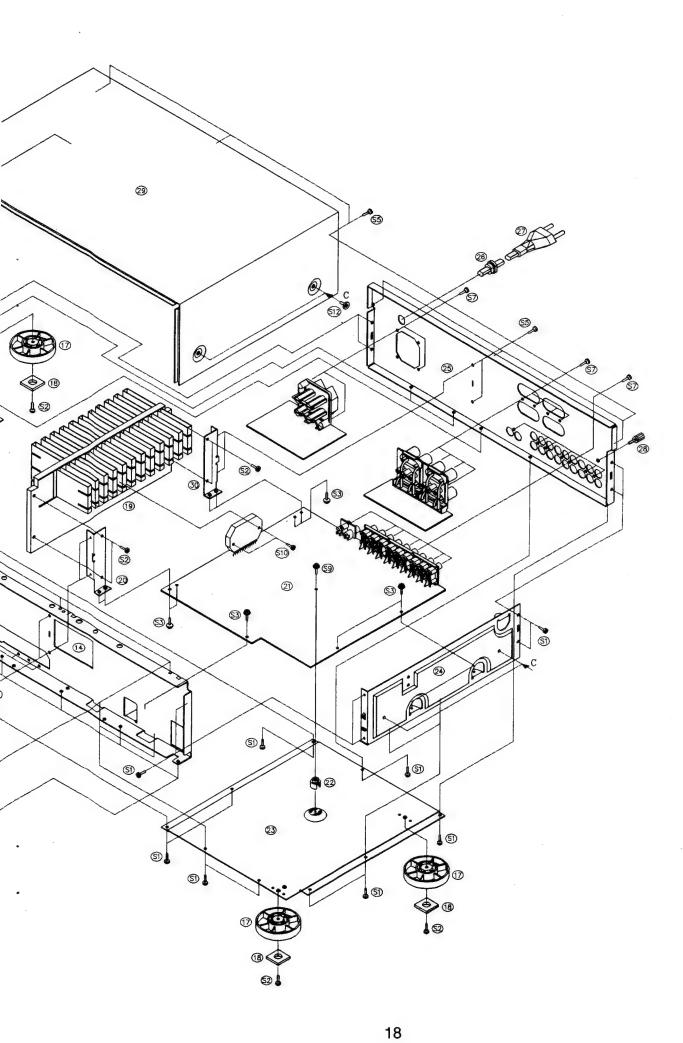
PRINTED CIRCUIT BOARDS

• MAIN PCB









EXPLODED VIEW [A-R500]

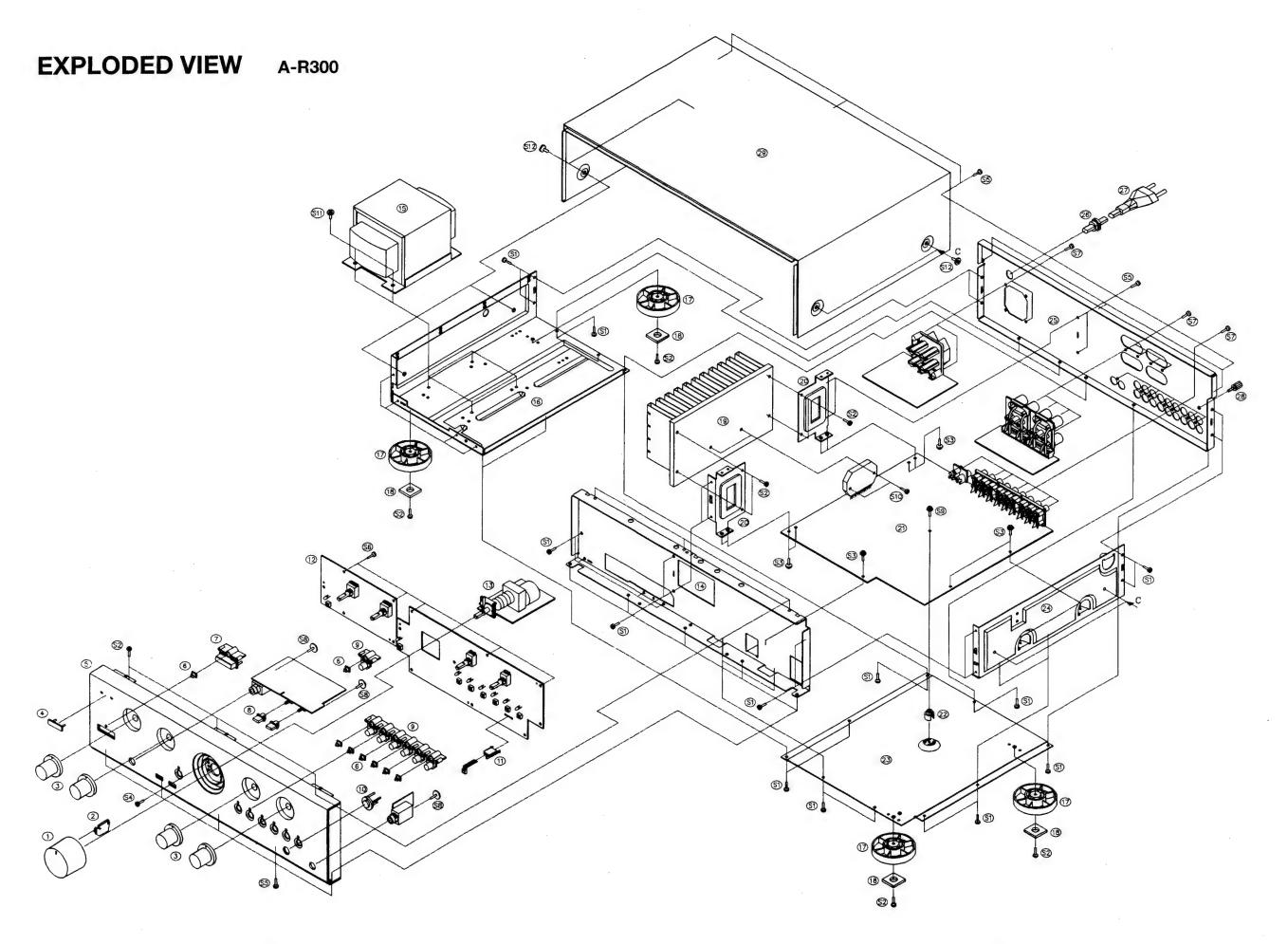
Ref. No.		Part No.	Description	Remarks
1		9A05886600	KNOB, VOLUME	
2			INDICATOR, VOL	
3			KNOB,ROTARY	
4				
			BADGE,TEAC	
5		9A05886900	PANEL,FRONT	
6		9A05887000	INDICATOR, FUNC	
7			KNOB,POWER	Ì
8			KNOB, SPEAKER	
9			KNOB, TACT	
10			ORNAMENT, REMOTE	
11		0405997600	HOLDER,REMOTE	
12				
12		9A05918710	SUB PCB ASSY	
		0405004400	VOLUME PCB ASSY	
14	_		CHASSIS,FRONT	
			TRANS,POWER [E]	
4	Δ	9A05897500	TRANS,POWER [GE]	
16		9A05891300	CHASSIS,BOTTOM	·
17			FOOT,FRONT	
18			FOOT, CUSHION	
19		9A05891600	·	
20				
20		9AU39238UU	BRACKET,HEAT	,
21			MAIN PCB ASS'Y	
22		9A01375500	PCB HOLDER	
23		9A05891900	PLATE,BOTTOM	
24		9A05892000	GUIDE,BOTTOM	
25		9A05892100	PANEL,REAR	
26 4	7	9401376900	CORD PUSHING	
			CORD, POWER [E]	•
			COED, POWER [GE]	
8			GROUND TERMINAL	
.0 !9				
			CABINET,TOP	
0		9A05923000	BRACKET,HEAT	
51		9A01532600	SCREW	
2		9A01535800	SCREW,KTB3*8J	
3		9A05339200	SCREW KTW3+8J	
4		9A05892400		
5		9A01377200		
6		0.6.04.2774.00	SCREW.KTB3*10G	
7		9A01377400 9A01377300		
8		9A01377600		
9			SCREW KTW3+12J	
10		9A05338500	SCREW KTB3+16J	
11		9A01477800	SCREW,KTB4*8F	
12		9A01397700		
_				

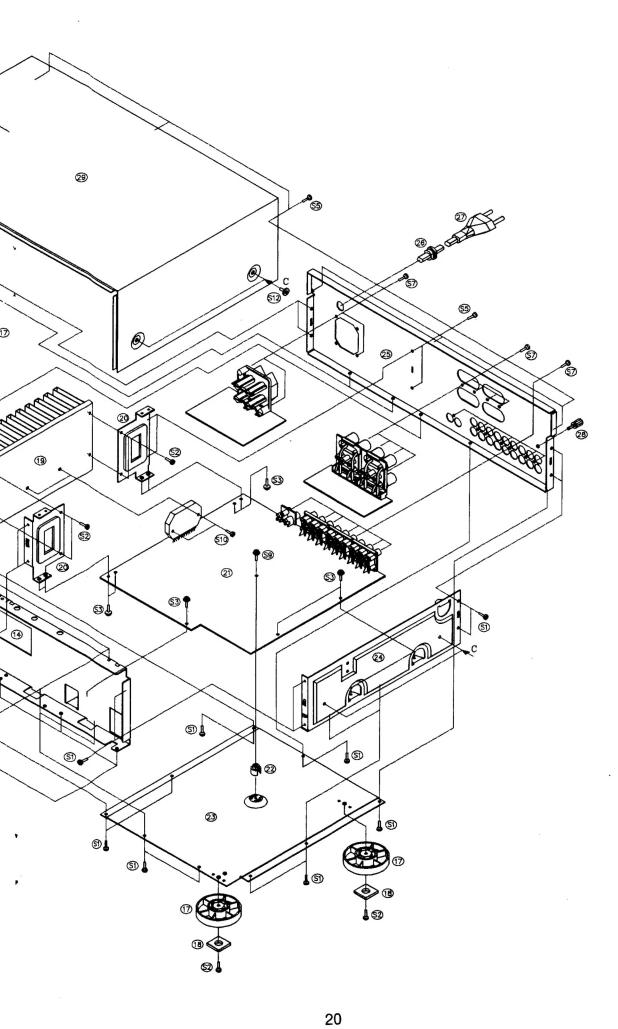
INCLUDED ACCESSORIES

Ref. No.	Part No.	Description	Remarks	
	9A05573400	OWNER'S MANUAL, A-R500/300		
	9A05808200	REMOTE TRANSMITTER ASSY		
			1	

Parts marked with * require longer delivery time.

[E]: EUROPE [GE]: GENERAL EXPORT





EXPLODED VIEW [A-R300]

	EXPL	OL	DED VIEW	[A-R300]	
	Ref. N	٥.	Part No.	Description	Remarks
	1		9A05886600	KNOB, VOLUME	
	2		9A05886700	INDICATOR, VOL	
	3			KNOB, ROTARY	
	4		9A05325000	BADGE,TEAC	
,	5		9A05886900	PANEL, FRONT	
	6		9A05887000	INDICATOR, FUNC	
	7		9A05887200	KNOB,POWER	
	8		9A05887300	KNOB,SPEAKER	
	9		9A05887400	KNOB,TACT	
	10		9A05887500	ORNAMENT,REMOTE	
	11			HOLDER, REMOTE	
	12		9A05918700	SUB PCB ASSY	
	13			VOLUME PCB ASSY	
	14			CHASSIS,FRONT	
	15			TRANS,POWER [E]	
		77	9A05910000	TRANS,POWER [GE]	
	16		0405901200	CHASSIS,BOTTOM	
	17			FOOT,FRONT	
	18			FOOT, CUSHION	
	19			HEAT SINK	
	20			BRACKET,HEAT	
			07100001700	DIAORET, NEAT	
	21		9A05919000	MAIN PCB ASSY	
	22			PCB HOLDER	
	23			PLATE,BOTTOM	
	24			GUIDE,BOTTOM	
	25		9A05892100	PANEL,REAR	
	26	Δ	9A01376900	CORD PUSHING	
	27	Δ	9A05892200	CORD, POWER [E]	
		Δ	9A05897600	CORD, POWER [GE]	
	28			GROUND TERMINAL	
	29		9A05892300	CABINET,TOP	
	S1		9A01532600		
	S2			SCREW,KTB3*8J	
	S3			SCREW KTW3+8J	
	S4 S5		9A05892400		
•	55		9A01377200	SCHEW	
	S6		9401377400	SCREW,KTB3*10G	
	50 S7		9A01377400		
	S8		9A01377600		
	S9			SCREW KTW3+12J	•
	S10			SCREW KTB3+16J	
•					
5	S11		9A01477800	SCREW,KTB4*8F	
5	312		9A01397700		
				· ·	

INCLUDED ACCESSORIES

Ref. No.	Part No.	Description	Remarks
	9A05573400	OWNER'S MANUAL, A-R500/300	
	9A05808200	REMOTE TRANSMITTER ASSY	•

Parts marked with * require longer delivery time.

[E]: EUROPE [GE]: GENERAL EXPORT

RESISTORS AND CAPACITORS

Notes: • Part numbers are indicated for most mechanical parts. Please use this part number for parts order.

- IMPORTANT SAFETY NOTICE.

 Components identified by \(\frac{\Lambda}{\text{ mark have special characteristics important for safety.} \)

 When replacing any of these components, use only manufacture's specified parts.
- The unit of resistance is OHM(Ω) K=1000(Ω), M=1000(Ω)
- The unit of capacitance is MICROFARED(μF)
 P=10⁻⁶μF

Numbering System of Resistor

Example

KRD	25	F	J
Type	Wattage	Shape	Tolerance

Resistor	Wattage	Tolerance
KRD: Carbon	20:1/5W	F:=±1%
KRG: Metal Oxide	25:1/4W	J:=±5%
	50:1/2W	K:=±10%
	12:1/2W	
KRF:Metal Cement	1:1W	
	2:2W	
	3:3W	

■ Numbering System of Capacitor

Example

101	KCKR	1H	101	K	В
Value	Type	Voltage	Value	Tolerance	Peculiarity

	Vol	Toloropoo	
Capacitor Type	ECEA Type	Other	Tolerance
KCB:Ceramic KDD:Ceramic KCK:Ceramic KCFR:Semiconductor KCQI:Polyster KCQP:Polypropylene KCQS:Polystyrol	0J:6.3V 1A:10V 1C:16V 1E:25V 1H:50V 1V:35V	1H:50V DC 1:125V DC KC:400V AC D25V DC	C:±0.25pF G:±2% J:±5% K:±10% Z:±80%, -20%

MA	IN	PCB	ASSY	,

MAIN PCB ASSY				
Ref. No.	Part No. Description			
	9A05919000 MAIN PCB ASSY [A-R300]			
	9A05919010 MAIN PCB ASSY [A-R500]			
	9A05893200 MAIN PCB 9A05897400 TERMINAL,SPEKER			
CN05	9A05328900 WAFER MOLEX 5267-02A			
01103	SAUSSESSU VAN EN MOLEK SEUT DEA			
CN05	9A05329300 WAFER MOLEX 5267-04A			
CN06	9A05890200 WAFER(11P)			
CN15	9A05328900 WAFER MOLEX 5267-02A			
CN20	9A05894700 WAFER(5P)			
C103,104	9A05322200 C, ELEC A1HQ4R7B			
C905,906	♠ 9A05922400 C.,6800UF/63V [A-R300]			
	▲ 9A05894600 C.,6800UF/63V [A-R500]			
C909,910	▲ 9A01402000 C,ELEC 2200UF/25V			
D101	9A01390500 DIODE,1N4148MT			
D103	9A01390500 DIODE,1N4148MT			
D201-203	9A01390500 DIODE,1N4148MT			
D207	9A01390500 DIODE,1N4148MT			
D902	9A05188900 DIODE,PBM152F			
D903-906	9A05194700 DIODE,1N4003ST			
D908	⚠ 9A05894800 DIODE,ZENER			
D909	⚠ 9A05194500 DIODE,ZENER UZ5.6BMT			
D910	9A01390500 DIODE,1N4148MT			
D911	9A01390600 DIODE,1N4148T			
IC11	▲ 9A04881100 IC,STK4192(2) [A-R300]			
	▲ 9A05895000 IC,STK4231(2) [A-R300]			
IC31	9A05918300 IC, BVIANAM1128R			
IC51-54	△ 9A05195800 IC,MC4558S			
IC55,56	▲ 9A04929100 IC,GD4051B			
IC91	▲ 9A05895100 IC MC7815C			
IC92	▲ 9A05895200 IC MC7915C			
IC93	▲ 9A05196000 IC,MC7812C			
L101,102	9A04875100 COIL [A-R300]			
,	9A04895800 COIL [A-R500]			
Q201,202	9A05892800 TR.,C3198			
Q203	9A05895900 TR.,A1266			
Q204,205	9A05892800 TR.,C3198			
Q206	9A05895900 TR.,A1266			
Q207	9A05196900 TR,KSR1206T			
Q501-506	9A05896000 TR.,C2878			
Q507-509	9A03745200 TR., KVTKSR2206T			
Q901	△ 9A01388300 TR., KVTKSD288Y			
Q902	9A05196800 TR,KSC2316YT			
Q903	9A03745100 TR., KVTKSA1175YT			
Q904	9A05196900 TR,KSR1206T			
Q905	9A05196700 TR,KSA916YT			
Q906	9A03745000 TR., KVTKSC2785YT			
Q907	9A03745000 TR., KVTKS0276511 9A03745100 TR., KVTKSA1175YT			
Q908,909	9A05197400 TR,KTC3203YT			
Q910,911	9A05895900 TR.,A1266			
RLY1,2	9A05897300 RELAY			
DI Va	0401402700 DELAY			
RLY3 RLY4	9A01423700 RELAY 9A05897300 RELAY			
R109-112	A 9A05898100 R.,3.3KOHM,1/2W [A-R300]			
	△ 9A05896100 R.,4.7KOHM,1/2W [A-R500]			
R119,120	▲ 9A05896300 R.,0.22-OHM,5W			
D101.100	& 040E006400 D 4.7 OUN 434			
R121,122 R123,124	⚠ 9A05896400 R.,4.7-OHM,1W ⚠ 9A05338000 R, METAL 1ANJ100H			
R151,152	⚠ 9A05396000 R, METAL TANSTOON ⚠ 9A05896500 R.,390-OHM,2W			
R901-904	▲ 9A05896900 R.,12K-OHM,1/2W			
R905	▲ 9A05897000 R.,22-OHM,2W			
R944,945	▲ 9A05897200 R.,0.47-OHM,1W			

SUB PCB ASSY

Bef No. Bert No. Description				
Ref. No.	Part No. Description			
	9A05918700 SUB PCB ASSY [A-R300]			
	9A05918710 SUB PCB ASSY [A-R500]			
1	9A05888100 SUB PCB			
CN09	9A05329100 WAFER MOLEX 5267-03A			
CN09	9A05329100 WAFER MOLEX 5267-03A			
CN13	9A05329600 WAFER MOLEX 5267-06A			
	9A05329600 WAFER MOLEX 5267-06A 9A05329600 WAFER MOLEX 5267-06A			
CN13 CN16	9A05329600 WAFER MOLEX 5267-06A 9A05329600 WAFER MOLEX 5267-06A			
CN16	9A05329600 WAFER MOLEX 5267-06A			
CN25	9A05890200 WAFER(11P)			
ONLO	SACOSSES WAI EN(TH)			
D301,306	9A05890300 LED, YCF02TO85			
D307	9A01390600 DIODE,1N4148T			
D309	9A05194300 LED,SPR39MVW3			
D401	9A01390600 DIODE,1N4148T			
D450	9A05194300 LED,SPR39MVW3			
F901	▲ 9A05306900 FUSE F2.5A [A-R300]			
2.00	△ 9A05894900 FUSE F4A [A-R500]			
IC31	9A05890400 IC, ANAM1101A			
IC32	9A05195800 IC,MC4558S			
IC33	9A05424700 IC BVIRPM638CBL			
IC35	9A05317300 I.C RE5VA30CC			
IC41	9A05317300 I.C RESVASOCC 9A05195800 IC,MC4558S			
JK04	9A05316900 JACK HTJ064-05BG			
JK04 JK05	9A05895400 JACK			
JK06	▲ 9A05895700 OUTLET,AC			
3100	M 9A03893700 OUTLET,AO			
Q301-306	9A05196900 TR,KSR1206T			
Q307	9A05198800 TR,KSR2204T			
Q308-310	9A05196900 TR,KSR1206T			
Q311	9A03745200 TR., KVTKSR2206T			
Q312-315	9A05198800 TR,KSR2204T			
Q316,317	9A03745200 TR., KVTKSR2206T			
Q318	9A05198800 TR,KSR2204T			
Q319	9A03745200 TR., KVTKSR2206T			
Q320	9A05198800 TR,KSR2204T			
Q321	9A03745200 TR., KVTKSR2206T			
0333	9A05196900 TR,KSR1206T			
Q322 Q323	9A03745000 TR., KVTKSC2785YT			
Q323 Q401,402	9A03745000 TR., KVTKSC27651T 9A03745000 TR., KVTKSC2785YT			
Q704,705	9A05197400 TR,KTC3203YT			
RLY4	9A05897300 RELAY			
. 11. 1 -7	CASSOCIOS TIMENT			
R368,369	△ 9A01379900 R., CARBON 1/4W 100			
	▲ 9A01379900 R., CARBON 1/4W 100			
R450	▲ 9A05890500 R.,100-OHM,1/2W			
SW31-38	9A04882500 SW,TACT			
SW39	9A05922100 PUSH SW			
0147:-				
SW40	9A01393800 SW, SP			
VR31,32	9A05890600 VR.2X01C104Z			
VR33	9A05890700 VR.1U02W104Z			
VR41	9A05890800 VR.1U01503Z			
VR71	9A05893100 VR.			
X301	9A05890900 CRYSTAL			
7001	9A01393800 CORE			
	9A05917000 CORE, FILTER RING			
	ONOUGH TOOL OOME, THE ENTING			

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